# AN EXPERIMENTAL STUDY OF CLOZE PROCEDURE AS AN INDEX OF READING COMPREHENSION

by

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CONTENTS

# INTRODUCTION

Communication has long been the concern of man since it is the basis of his learning behavior. Without a refined communication system man could not educate the members of his society and transfer what he has learned to other generations. Language is the focal point of this concern but the study of language systems in isolation produces limited advancement in man's knowledge about communication. In order for man to learn about his own communication he must learn about his own behavior. More specifically, he must learn about his own understanding of the language with which he communicates.

A major problem that has stood in the way of this understanding of language is its measurement. The problem of measuring human language behavior has been a difficult one, and now is a concern of several disciplines such as Speech, English, Psychology and Linguistics. Much progress has been made in the specific area of reading comprehension, but new and better methods are constantly being sought. Of the many questions that have been asked about measurement of language understanding probably the most important is: how may a test be devised to measure how well the reader understands what he reads? In order to answer this questions another must also be asked: does the type of material read influence the reader's understanding? These two questions have been answered fairly well by many scholars in the past.[1] In 1953 Wilson Taylor developed a

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[1] I. Lorge, "Readability Formulae - An Evaluation," Elementary English, XXVI, (1949), pp. 86-95.

Rudolf Flesch, "A New Readability Yardstick," Journal of Applied Psychology, XXXII, (June 1948), pp. 221-233.

different type of measurement which answered the above questions, but in a simplified test called cloze procedure.

## STATEMENT OF THE PROBLEM

The first objective of this report is to add or subtract support to Taylor's findings that cloze procedure is an effective measurement of reading comprehension. This will be done by determining whether or not cloze procedure measures the reading comprehension of a person reading a short expository article. Further support or non-support will be given to Taylor's findings by determining whether or not cloze procedure and a multiple choice test over the same article correlate significantly.

The second objective of this report is to explore the application of cloze procedure to textbook reading assignments. This will be accomplished by determining whether or not cloze procedure measures the reading comprehension of a person reading several chapters of a textbook.

## DEFINITIONS

In order to accomplish the above objectives several definitions must be set forth for clarity. First, a short expository article is defined as an article where a 500-word cloze passage represents approximately fifteen per cent of the total words in the complete article. In this 500-word passage every tenth word will be deleted, thus creating fifty blanks in the 500-word cloze passage. An extended textbook assignment is defined as the number of chapters in a textbook where a 500-word cloze passage represents approximately four per cent of the total words in the textbook chapters. Every tenth word will be deleted in the textbook chapters, again creating fifty blanks in the 500-word cloze passage.

The third definition is that of cloze procedure itself. Cloze procedure derives its name from Gestalt psychology. "Closure" is the human tendency to close the gap between that which is known and the unknown. An example of this is an automobile extended halfway from a garage. A person looking from the side can see only half of the automobile, but presumes what the half of the car in the garage looks like from his previous experience with automobiles. In other words, the person looking at the car is closing the gap between the known and the unknown. The same phenomenon takes place with the reader; if one word in a sentence is deleted, a word is chosen by the reader to fill in for the deleted word. The substitute word comes from the reader's wide experience with the language, and more specifically from the actual content of the paragraph and sentence that the person is reading. Therefore, the reader with a clear understanding of the whole article which he is reading is more apt to duplicate the word that has been deleted. "The better the writing is understood, the more likely it is that a reader can guess what words are missing."[2]

Cloze procedure was originally designed to test the readability of a particular piece of writing, but it was soon recognized that if an article was "readable" then it must also be "understandable" to the reader. If the reader understands what he reads then this must be a piece of writing that is "comprehensible" to the reader. Therefore, if "understanding" and "comprehension" are synonymous, "readability" is synonymous with the other two. This is further explained by Taylor:

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[2]Wilson L. Taylor, "Cloze Readability Scores as Indices of Individual Differences in Comprehension and Aptitude," Journal of Applied Psychology, XLI, No. 1, (1957), p. 19.

> "It is assumed at the outset that readability and comprehensibility are essentially synonymous terms. The statement that a particular prose passage is, for example, 'very readable' simply seems to mean that it is very easy for some 'average' reader to understand."[3]

The operation of a cloze procedure test is rather simple, but, as will be discussed later, its ability to measure reading comprehension seems comparable to the other methods that have been devised. To begin a cloze procedure test an article or reading passage is chosen and assigned for the student to read. After the student has read the article a passage from the article is chosen at random, and every tenth word is deleted. In Taylor's studies he chose a passage that was approximately twenty per cent of the complete article. The student is then asked to fill in the blanks with the correct words. An example of a cloze test is as follows:

"Mary had a little lamb,
its fleece was white __1__ snow. 1. _____
And everywhere that Mary went
the lamb was __2__ to go. 2. _____
It followed her to school one day,
__3__ was against the rule. 3. _____
It made the children laugh and __4__ 4. _____
to see the lamb at school!"

Each exact reproduction of the deleted word is scored as one correct answer; synonyms are not correct. Now the scores can be compared to other

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[3]Taylor, p. 19.

students who have taken the test to determine how much the student understands of the article he read. In the selection of "Mary Had a Little Lamb" the cloze score would be near perfect, but from a physics textbook the scores would naturally run lower. However, the student who understands the passage better would receive a higher cloze score than the student who does not understand what he is reading. As can be seen, the constructing and administering of this test is relatively straight-forward.

LIMITATIONS

The multiple choice test that was correlated with the cloze procedure scores posed a limitation upon this study. It must be assumed that the multiple choice test is a valid measurement of comprehension. This test over the short expository article was given to a group of thirty-eight high school seniors. Each question was ranked according to the number of times it was missed by the high school students. Of the original forty-three questions, twenty-five were selected for use. Eighteen questions were drawn from the center of the distribution of ranks. Three questions were selected from those questions missed by almost all students and four questions were selected from those questions missed by nearly all students.

## REVIEW OF LITERATURE

A review of the literature revealed that use of the cloze procedure falls into three major categories: cloze procedure as a measure of readability, as a measure of reading comprehension, and as a testing device to measure comprehension in other types of studies. These three categories follow a chronological order in the progression from a simple testing device to measure readability to a significant index of reading comprehension.

When cloze procedure was first developed by Wilson Taylor it was devised as a measure of readability to improve upon the accuracy of other readability formulas such as the Flesch Formula. But it was soon discovered that cloze procedure measured a much more important factor in readability - the human factor of comprehension.

The Flesch readability formula as an example of the readability formulas measured readability as follows: it compounded (1) average sentence length in words, (2) average word length in syllables, (3) average percentage of "personal words", and (4) average percentage of "personal sentences"; the score from this formula amounted to the readability score of the particular piece of writing.[4] The formula was first applied to a reading passage and then checked by a multiple choice test on the level that the formula predicts. This step was further explained by Flesch just after he revised his readability formula.

> "The scores computed by this formula have a range of 0 to 100 for almost all samples taken from ordinary prose. A score of 100 corresponds to the prediction that a child who has completed fourth grade will be able to answer correctly three-quarters of the test questions to be asked about the passage that is being rated; in other words, a score of 100 indicates reading matter that is understandable for persons who have completed fourth grade and are, in the language of the U. S. Census, 'barely functionally literate'."[5]

As can be seen the human comprehension factor has been omitted by this type of readability measure, and this very factor was what Taylor tried to

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[4] Rudolf Flesch, "A New Readability Yardstick," p. 221.

[5] Flesch, p. 223.

initiate in his cloze procedure measure of readability. This factor is discussed by Taylor in his original article on cloze procedure.

> "Cloze procedure counts no such elements. It seems, however, to measure whatever effects elements have on readability. And it does at the same time that it is also taking account of the influences of many other factors readability formulas ignore."[6]

As may be seen above, cloze procedure takes into account all of the factors that affect readability, including the human comprehension factor. Thus, cloze procedure is a much better measure of readability. However, while developing cloze procedure as a measure of readability Taylor discovered that cloze procedure could also be used for many other types of measurement. The main one of concern here is that of reading comprehension. After the inclusion of the human factor of readability by cloze procedure the stage was set for an effective measure of reading comprehension. This discovery was commented on in Taylor's original article dealing with cloze procedure.

> "If future research substantiates the results so far, this tool seems likely to have a variety of applications, both theoretical and practical, in other fields involving communication."[7]

In a later article, Taylor announced cloze procedure's ability to measure reading comprehension.

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[6]Wilson L. Taylor, "Cloze Procedure: A New Tool For Measuring Readability," Journalism Quarterly, (Fall 1953), p. 417.

[7]Taylor, p. 415.

> "The technique appears to be an effective guage of 'individual difference' in the comprehension of readers."[8]

Since readability and comprehension are synonymous, Taylor was ready to test cloze procedure as a measure of reading comprehension because his rationale was now complete.

The rationale that cloze procedure measures comprehension is a simple one, and yet quite logical. There are many factors that influence a reader's comprehension. Some of them can be measured by certain methods, but others cannot. An example of one of these factors that is difficult to measure is the reader's enthusiasm. If a reader is enthusiastic and wants to read and understand the passage that is being read, then, presumably, he will understand more of what he reads than if he lacked enthusiasm. Cloze procedure is able to measure enthusiasm by asking the reader to duplicate exactly what he read. Thus, the enthusiastic reader should score higher on a cloze procedure test because his enthusiasm allowed him to comprehend more of what he read. Taylor further explained this point in his article written in 1953.

> "The total context of any language behavior includes everything that tends to motivate, guide, assist or hinder that behavior. It includes verbal factors - grammatical skills and multitudes of symbols - and non-verbal ones such as fears, desires, past experiences and intelligence."[9]

All of these intangible factors can be measured by cloze procedure

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[8] Wilson L. Taylor, "Recent Developments in the Use of Cloze Procedure," Journalism Quarterly, XXXIII, (Winter 1956), p. 42.

[9] Taylor, "A New Tool," p. 418.

because of its duplication method of testing comprehension.

Therefore, by asking the reader to duplicate what he has read the reader demonstrates what he has understood, and reading comprehension has been measured.

Taylor has tested cloze procedure extensively, and all of the tests show that reading comprehension is measured significantly. The first two experiments were reported in 1953 and the results seemed to uphold his rationale. At this point in the testing of cloze procedure it appeared that, as a measure of reading comprehension, cloze procedure was a success.

> "Potentially important, it seems, is the fact that a cloze score appears to be a measure of the aggregate influences of 'all factors' which interact to affect the degree of correspondence between the language patterns of transmitter and receiver."[10]

The second report by Taylor was in 1956 and showed that after more extensive experiments cloze procedure was substantiated even more as an effective measure of reading comprehension.

> "The results fulfilled expectations. Entered in Table I are the correlation coefficients among five sets of scores for 48 subjects. All the coefficients are large, and all are 'significant' in the sense that they could not be so large by pure chance even once in a thousand times."[11]

The final set of experiments conducted by Taylor were quite extensive

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[10]Taylor, "A New Tool," p. 432.

[11]Taylor, "Recent Developments," p. 45.

as they attempted to substantiate even further the ability of cloze procedure to measure reading comprehension. This set of tests was correlated with multiple choice tests that measure comprehension, and with the Armed Forces Qualification Test, which is a general aptitude test of innate ability to comprehend. The cloze procedure correlated significantly with the other multiple choice tests as stated by Taylor

> "If the comprehension tests, adopted as criteria, really did index (a) knowledge of the article's content before it was read, (b) the relative amount of that content remembered immediately after the study, (c) the increase in knowledge of the content brought about by study, and (d) general aptitude or ability to understand, in agreement with another criterion, the AFQT, then it appears that cloze scores did too."[12]

In summary, then, the experiments with cloze procedure upheld all expectations and proved Taylor's rationale as defensible. It seems that the number of experiments and the number of subjects in these experiments were adequate to substantiate Taylor's rationale.

Cloze procedure has been used in other studies that deal with comprehension; this shows its attractiveness as a comprehensive measure. The acceptance by other scholars as they used it in their studies shows the confidence placed in cloze procedure, and in Taylor's methods of experimentation and substantiation.

One of these studies conducted by Darnell on the relationship between sentence order and comprehension used cloze procedure to measure the comprehension that took place after changing the sentence order within a message.

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[12]Taylor, "Cloze Readability Scores," p. 25.

In the concluding paragraph of this study the author discussed his use of cloze procedure.

> "The strength which the present experiment illustrates is the usefulness of the deletion-completion technique (cloze procedure), it can be used in further investigations of the effect of sentence order upon comprehension."[13]

King's study used cloze procedure as a measure of comprehension; this involved a study of ethos which showed that cloze procedure is being accepted and used as a measuring device for reading comprehension.

> "The validity and reliability of the cloze procedure technique as a measure of recall has been empirically demonstrated in research by Taylor."[14]

Another study by Welden used cloze procedure to measure retention, which seems to show that cloze procedure has been accepted as a testing device for measuring variables other than reading comprehension.

> "Retention of the experimental messages was indexed by the 'cloze procedure' . . . . . This procedure was selected primarily because it permits the use of realistic messages."[15]

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[13] Donald K. Darnell, "The Relation Between Sentence Order and Comprehension," Speech Monographs, XXX, (June 1963), p. 100.

[14] Thomas R. King, "An Experimental Study of the Effect of Ethos Upon the Immediate and Delayed Recall of Information," Central States Speech Journal, XVII, (February 1966), p. 26.

[15] Terry A. Welden, "The Effect on Attitudes and Retention of Message Order in Controversial Material," Unpubl. Diss., (Michigan State, 1961), pp. 35-36.

In summary of the previous literature, it was found that cloze procedure has advanced from a readability measure to an accepted method of measuring reading comprehension. Cloze procedure's acceptance has been shown by its success in measuring comprehension as well as its acceptance by other scholars as they have used it as a measuring device in other studies.

## HYPOTHESES

The purpose of this report is to test the following hypotheses. The first two are defined as replication hypotheses to add support to Taylor's earlier findings.

I. Cloze procedure scores measure reading comprehension of a given short expository article.

II. Cloze procedure scores correlate significantly with a multiple choice test over a given short expository article.

The next hypothesis is defined as an exploratory hypothesis in order to determine the applicability of cloze procedure to textbook assignments.

III. Cloze procedure scores measure reading comprehension over a given extended textbook assignment.

## JUSTIFICATION

The justification of this study is three-fold. First, more weight should be added to Taylor's findings through the replication of one of his experiments. Cloze procedure as a measure of reading comprehension is

generally accepted, but investigation of the correlation of cloze procedure scores with multiple choice test scores is limited to Taylor's early work. Taylor consistently found correlations of above .70 in his experiment. By replicating the correlation section of Taylor's experiment more weight should be added to the substitutability of cloze procedure for other objective tests of comprehension.

Secondly, the exploratory section of this report, that of testing cloze procedure for an extended passage, should give some insight into whether or not cloze procedure can be used for textbook assignments. The main limitation of cloze procedure, as repeatedly demonstrated by Taylor, seemed to be that at the fifteen per cent level of cloze testing a test would have to be given over every chapter in a textbook assignment. The fifteen per cent level of cloze testing is when the cloze passage represents fifteen per cent of the entire number of words that could be found in the assignment being tested. Thus, the maximum number of words that could be tested at the fifteen per cent level is about 3,400, which forces the cloze test to be given quite often as far as textbook assignments are concerned.

In order to determine whether or not the fifteen per cent level is an inherent limitation of the cloze procedure the small level of four per cent was explored in this report. The four per cent level was arbitrarily chosen. It resulted from the length of the first assignment in the course from which the subjects were drawn. The four per cent level should in effect show whether or not cloze procedure is acceptable for textbook assignments.

Finally, the practical advantages of cloze procedure seem to justify this report as these practical advantages appear to weigh heavily in choosing cloze procedure over other methods of measuring reading comprehension. The practical advantages of using cloze procedure in the classroom

are many and the disadvantages assuming its sensitivity to extended assignments seem to be of minor stature. First, the test is easily constructed and saves the teacher's time and effort in assembling it. Also, administration of the cloze procedure is quite simple, and it fits easily into the time schedule of one class period. Grading is also time-saving as a cloze test can be scored quickly by a key. The mechanical advantage of the cloze procedure brings out an important point. The teacher's time that is spent preparing, administering and grading a test is reduced considerably by using cloze procedure, and he has much more time to prepare for classes, counsel students and actually teach.

However, two disadvantages seem to block the way of the teacher using cloze procedure. First, students do not seem to understand the merits of cloze procedure; therefore, they must be convinced of its effectiveness. This report, along with the other studies mentioned, hopes to add more substantiation to the use of cloze procedure and thus help remove the block against this type of test. The other disadvantage is that at the fifteen per cent level of cloze testing the cloze procedure is not adaptable to textbook material because a test would have to be given for approximately each chapter. In this report, the four per cent level will be tested. If cloze procedure does significantly measure comprehension at this level, then a test can be given for approximately every five chapters. Thus, cloze procedure will be quite acceptable for textbook material.

The student who is tested by cloze procedure profits considerably for several reasons. First, of course, the student is forced to understand the material covered. Probably the best outcome of using cloze procedure for the student is that he must change his study habits. No longer can he study the main points of the material and expect to pass the examination. The

student must study to understand the material because he has no idea where the cloze passage is going to fall. Also, the need or practice of extensive memorization will be eliminated by the use of cloze procedure. It would be impossible for a student to memorize every chapter; so he must study for understanding, which is a prime goal of learning.

In summary, regarding the justification of this report, it seems that the replication and exploratory sections can give considerable insight into cloze procedure as a testing tool; and because of the practical advantages of cloze procedure this insight could prove beneficial to the classroom teacher.

## PROCEDURE

The "t" test of the difference between means was used to test Hypotheses I and III. The Pearson product moment correlation was used to test Hypothesis II. The five per cent level of confidence was used for all tests.

### DESIGN

To test Hypothesis I, experimental and control groups were utilized. This was done to measure the amount of learning that took place as indexed by the difference between the mean of the cloze test scores for the group not exposed to the short expository article and the mean of the cloze test scores for the group that had been assigned to read the short expository article.

The testing of Hypothesis II was accomplished by a post-only design. This was done to determine the correlation between cloze and multiple choice tests. Since control data were available for the cloze procedure it was

decided to collect control data for the multiple choice test. This permitted a test of the learning that took place from reading the short expository article as indexed by the multiple choice test.

To test Hypotheses III a pre-post design was utilized. This was done to permit the investigation of the effect of prior experience with cloze procedure as well as to measure the amount of learning that took place from reading the extended textbook assignment. The subjects receiving the pre-test were compared with the scores of the post-only experimental group to determine the effect of prior experience with the cloze procedure.

SUBJECTS AND DATA COLLECTION

The subjects consisted of 128 Oral Communication I students from seven classes. These students were enrolled in the 1966 summer session at Kansas State University, Manhattan, Kansas.

The pre-test of the extended textbook assignment was administered during the first class meeting of the summer session to two classes with sixteen and eighteen students respectively. The cloze test used for the pre-test consisted of fifty deleted words from three randomly-selected passages within the five chapters of the course textbook, Creative Speech, by Keith St. Onge.[16] Each passage was on a separate page of the test booklet so the student could easily determine when one passage ended and another began. Every tenth word was deleted from these separate passages creating fifty blanks for the students to duplicate the missing words. The five chapters consisted of approximately 13,270 words and the cloze passage of 500 words

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[16] Keith St. Onge, Creative Speech, (Belmont, California: Wadsworth Publishing Company, 1964).

amounted to four per cent of the complete assignment. The students were not informed of the test source material but were informed that the material handed them contained several deleted words which they were to replace with the words they thought were correct. They were given two days to read the chapters of the extended assignment, and then the post-tests, which were duplicates of the pre-tests, were administered on the third class day. The experimental post-only class consisted of seventeen students and followed the same pattern as the other classes, except for the pre-test.

The test materials over the short expository article consisted of cloze and multiple choice tests. The cloze test was given to one control class containing nineteen students while the multiple choice test was given to one control class of twenty-one students. The cloze test once again contained three passages from the message, and a total of fifty deleted words. The multiple choice test contained twenty-five multiple choice questions.

The short expository article was "Three Misconceptions of Communication" by Francis Cartier, and contained approximately 2,800 words. The 500-word cloze passage amounted to 17.8 per cent of the article.[17]

The tests were administered to the experimental groups one day after the article was distributed to the classes, and the multiple choice tests and the cloze tests were duplicates of the test material administered to the control groups. Two different classes containing seventeen and twenty students received these test materials. One class was given the cloze test first while the other class was given the multiple choice test first to cancel any order difference that might occur.

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[17]Francis A. Cartier, "Three Misconceptions of Communication," A Review of General Semantics, XX, (July 1963), pp. 135-145.

## RESULTS

Generally, this section is arranged according to the hypotheses under study. However, there was a possibility that prior experience with the cloze procedure would inflate cloze scores obtained after exposure to the experimental message (for either the short expository article or the extended textbook assignment). While the design utilized experimental and control groups for the testing of the hypotheses, it permitted an investigation of this variable. The mean of the post-test scores for the control group for the extended textbook assignment was compared with the mean of the test scores for the experimental group for the extended textbook assignment (see Table I).

TABLE I
Post Control and Post Experimental Mean Differences
for Extended Textbook Assignment

| Group | Mean | N | t |
|---|---|---|---|
| Post Control | 22.61 | 34 | 1.94* |
| Post Experimental | 19.88 | 17 | |

*t .95 (df = 49) = 2.02

While the analysis did not reveal a significant prior exposure effect the obtained "t" score approached significance and all analysis related to the hypotheses of this study utilize the post-only experimental groups and control groups.

Hypothesis I predicted that there would be a difference between the mean of the cloze scores of the students who read the short expository article and those who did not. This hypothesis is supported by the data (see Table II).

TABLE II
Control and Experimental Mean Differences for Cloze Test
Over Short Expository Article

| Group | Mean | N | t |
|---|---|---|---|
| Control | 12.52 | 19 | 4.61* |
| Experimental | 18.51 | 37 | |

*t .95 (df = 54) = 2.00

Hypothesis II predicted significant correlation between the scores of the multiple choice test and the cloze test over the short expository article. The obtained r of .20 was not significant (r .95 = .32, df = 56).

Since no significant correlation was found but support was obtained for Hypothesis I which predicted a significant increase in cloze scores as a result of exposure to the short expository article, a similiar analysis was conducted for the multiple choice test. Again, there was a significant increase in multiple choice scores as a result of exposure to the short expository article (see Table III).

TABLE III
Control and Experimental Mean Differences
for Multiple Choice Tests Over
Short Expository Article

| Group | Mean | N | t |
|---|---|---|---|
| Control | 10.66 | 21 | 5.53* |
| Experimental | 15.64 | 37 | |

*t .95 (df = 56) = 2.00

Hypothesis III predicted that the cloze scores of the students who had

read the extended textbook assignment would be different than those who had not read this assignment. This hypothesis is supported by the data (see Table IV).

TABLE IV
Cloze Pre and Post Only Scores of the
Extended Textbook Assignment

| Group | Mean | N | t |
|---|---|---|---|
| Pre Cloze | 15.97 | 34 | 2.92* |
| Post Only Cloze | 19.88 | 17 | |

*t .95 (df = 49) = 2.00

## DISCUSSION

The support given to Hypotheses I and III, and the non-support of Hypothesis II brings forth several points that need further explanation. First, by supporting Hypothesis I, substantiation was added to Tayler's findings that cloze procedure does measure reading comprehension over a short expository article. Also, by supporting Hypothesis III the apparent limitation of a fifteen per cent cloze passage does not seem to be a limitation at this point in the substantiation of cloze procedure.

However, the non-support of Hypothesis II does not add substantiation to Tayler's findings that cloze procedure tests will correlate highly with other objective tests. The non-support of this hypothesis shows that cloze procedure will not correlate with some other objective tests, and does raise the point that cloze procedure cannot be substituted for other objective tests in some circumstances.

## RESEARCH IMPLICATIONS

This report shows that in several places of the substantiation of cloze procedure that more research is needed. First, the support of Hypothesis III points out that research is needed between the levels of four per cent and twenty per cent of the complete article being read, to substantiate that cloze tests do measure between these two levels. Further exploratory hypotheses do not seem justified. Some work in the development of a rationale for the applicability of cloze procedure to manuscripts of varying lengths when cloze procedure is used as a measure of comprehension is needed. The non-support of Hypothesis II implies that more research is needed to find what types of objective tests cloze procedure scores will correlate highly with, and in effect if cloze procedure is measuring the same thing as other objective tests. The space between the deleted words may be a critical factor in the correlation problem. Thus it may be that by deleting every tenth word the correlation is affected. This seems to be the starting point on further research on the correlation problem.

One other point that pertains to further research is that scholars who use cloze procedure as a measuring device in their studies should report the level of cloze procedure that was used, and the space between deletions. This would increase the utilization of research on cloze procedure as these factors could be analyzed at the same time the study in general is being read.

## SUMMARY

In summary, this report gave support to Taylor's earlier findings that cloze procedure measures reading comprehension over a short article, and it lends support to the position that cloze procedure does measure reading com-

prehension over a longer reading passage. But, no support was obtained for the position that cloze procedure correlates with objective tests.

One limitation of cloze procedure is that students react negatively to new testing procedures. It is hoped that this report may help with the changing of these negative attitudes.

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ABSTRACT

AN EXPERIMENTAL STUDY OF CLOZE PROCEDURE
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The objective of this report was to add or subtract support to Wilson Taylor's findings that cloze procedure is an effective measurement of reading comprehension, and to explore the application of cloze procedure to textbook reading assignments.

The review of the literature revealed that cloze procedure is an accepted method of measuring reading comprehension. However, cloze procedure research had been limited to short articles.

The hypotheses of this study were:

I. Cloze procedure scores measure reading comprehension of a given short expository article.

II. Cloze procedure scores correlate significantly with a multiple choice test over a given short expository article.

III. Cloze procedure scores measure reading comprehension over a given extended textbook assignment.

Data were collected by administering cloze and multiple choice tests to Oral Communication I students at Kansas State University in the summer session of 1966. The design consisted of an experimental and control group being given a cloze test before and after they read the experimental messages. Cloze procedure scores and the multiple choice test scores were correlated and the significance of the difference between control and experimental groups' means were determined.

The obtained data were analyzed by the use of the "t" test and the

Pearson product moment correlation.

Hypotheses I and III were supported by the findings, and Hypothesis II was rejected.